We Claim:

1. A method for reconfiguring a second system in a system comprising a host computer system coupled through a communication medium to the second system, wherein the host computer system includes host driver software, the method comprising:

the host computer system saving configuration information for the second system;

receiving user input requesting a power down condition for the second system;

the second system generating an indication of the power down condition to the host computer system in response to said user input;

the host computer receiving the indication of the power down condition;

the host driver software entering a quiescent state after receiving the indication;

powering down the second system, wherein the second system is operable to be reconfigured by a user after said powering down;

powering up the second system after said powering down and after the second system has been reconfigured by a user;

the host computer system detecting said powering up of the second system; and

the host computer system restoring second system configuration using said configuration information.

2. The method of claim 1,

wherein said receiving user input comprises receiving user input at the second system

3. The method of claim 1,

wherein the host computer system is coupled to the second system through a split bridge.

4. The method of claim 1,

wherein the host computer system is coupled to the second system through a bridge, wherein the bridge comprises a first interface comprised in the host computer system, a second interface comprised in the second system, and a communication medium coupling the first interface and the second interface;

wherein the first interface, the second interface, and the communication medium collectively comprise the bridge.

5. The method of claim 4, wherein the host computer system is operable to communicate with the second system by:

generating a first bus signal on a first bus comprised in the host computer system;

transmitting the first bus signal to the first interface;

the first interface converting the first bus signal into a form suitable for transmission over the communication medium;

the first interface transmitting the converted bus signal to the second interface over the communication medium;

the second interface receiving the converted bus signal;

the second interface converting the received converted bus signal to a form suitable for transmission to a second bus comprised in the second system, thereby generating a second bus signal; and

the second interface transmitting the second bus signal to the second bus comprised on the second system.

6. The system of claim 5, wherein each of the first interface and the second interface include parallel / serial transceivers for converting parallel data generated on the first bus and second bus, respectively, to data in a form suitable for transmission on the communication medium and for converting data received from the communication medium to parallel data for generation on the first bus and second bus, respectively.

7. The system of claim 6, wherein the communication medium comprises a serial bus.

8. The method of claim 4,

wherein the first interface and the second interface collectively implement a register set of the bridge.

9. The method of claim 4,

wherein the first interface and the second interface operate as a single PCI-PCI bridge;

wherein the first interface and the second interface collectively implement a PCI-PCI bridge register set; and

wherein the first interface operates as a first portion of a PCI-PCI bridge, and wherein the second interface operates as a second portion of the PCI-PCI bridge.

10. The method of claim 1,

wherein the second system comprises a remote system remotely located relative to the host computer system.

11. The method of claim 10,

wherein the second system comprises a remote system located more than about 2 meters from the host computer system.

12. The method of claim 1, wherein said powering down the second system comprises deactivating a link between the host computer system and the second system, the method further comprising:

the host computer system detecting a link down condition between the host computer system and the second system after said powering down the second system; and

the host computer system polling to determine a link status, wherein the link status comprises either the link down condition or a link up condition between the host computer system and the second system.

13. The method of claim 12, wherein said powering up the second system comprises reactivating the link between the host computer system and the second system; and

wherein said host computer system detecting said powering up further comprises the host detecting the link up condition between the host computer system and the second system.

14. The method of claim 1, wherein said polling to determine a link status comprises polling a register to determine the link status, wherein the register is comprised on the host computer system.

15. The method of claim 1, wherein said indication of the power down condition comprises a hardware interrupt.

16. The method of claim 1, wherein said indication of the power down condition is performed with a software function.

17. The method of claim 1, further comprising:

the host computer system sending a power down ready signal to the second system after said the host driver software entering a quiescent state and prior to said powering down the second system; and

the second system displaying a power down ready indicator in response to said sending.

18. The method of claim 1,

wherein said saving configuration information for the second system comprises saving configuration for a first one or more devices comprised in the second system; and

wherein said restoring second system configuration using said configuration information comprises restoring configuration for said first one or more devices comprised in the second system.

19. The method of claim 18, wherein said reconfiguring the second system comprises replacing at least one of said first one or more devices with a device of the same type.

20. The method of claim 18,

wherein at least one of said first one or more devices comprises a non-transparent bridge;

wherein said second system further comprises a second one or more devices coupled to said non-transparent bridge through an expansion bus comprised in the second system; and

wherein said reconfiguring the second system comprises reconfiguring said second one or more devices.

21. The method of claim 20, wherein said reconfiguring said second one or more devices comprises one or more of:

removing one or more of said second one or more devices;

adding one or more devices to said second one or more devices;

replacing one or more of said second one or more devices with respective other devices; and

swapping one or more of said second one or more devices.

22. The method of claim 21, wherein said second system comprises a chassis, and wherein at least a subset of said first one or more devices and said second one or more devices comprise cards inserted into said chassis.

23. The method of claim 22, wherein said user reconfiguring the second system comprises exchanging at least one of said cards on the second system.

24. The method of claim 22, wherein said user reconfiguring the second system comprises rearranging one or more of said cards on the second system.

25. The method of claim 20, further comprising:

the host computer system performing a discovery process on the reconfigured second system after said restoring configuration.

26. The method of claim 20, wherein said host computer system performing a discovery process on the reconfigured second system comprises the host computer system performing a discovery process on the second one or more devices.

27. The method of claim 20,

wherein said host driver software entering a quiescent state comprises the host driver software placing said first one or more devices and said second one or more devices into a quiescent state.

28. The method of claim 20, further comprising:

the second system indicating an online condition after said restoring second system configuration.

29. The method of claim 1, wherein said user requesting a power down condition for the second system comprises the user pressing a button on the second system.

30. The method of claim 26, wherein said user pressing a button on the second system comprises the user pressing a button on a card comprised in the second system.

31. The method of claim 1, wherein said user requesting a power down condition for the second system comprises the user entering user input to the second system indicating a request for the power down condition for the second system.

32. The method of claim 1, wherein said user requesting a power down condition for the second system comprises the user ejecting a card from the second system.

33. The method of claim 1, wherein said host driver software does not perform transactions with the second system while in said quiescent state.

34. The method of claim 1, wherein said reconfiguring the second system comprises one or more of: modifying hardware settings on the second system and/or modifying software settings on the second system.

35. The method of claim 1,

wherein said host computer system performing said saving configuration information, said detecting powering up, and said restoring second system configuration comprises:

said host driver software performing said saving configuration information, said detecting powering up, and said restoring second system configuration.

36. The method of claim 1,

wherein the indication of the power down condition comprises an interrupt.

37. A distributed system, the system comprising:

a host computer system, wherein the host computer system comprises:

a CPU; and

a memory;

wherein the memory is operable to store host driver software; and

wherein the CPU is operable to execute the host driver software;

a serial bus which is operable to couple to the host computer system;

a second system which is operable to couple to the host computer system via the serial bus;

wherein the host computer system is operable to:

save configuration information for the second system

wherein the second system is operable to:

receive user input requesting a power down condition; and

generate an indication of the power down condition in response to said receiving user input requesting the power down condition;

wherein the host driver software is executable to enter a quiescent state in response to the indication of the power down condition; and

wherein the host computer system is operable to:

detect a link down condition between the host computer system and the second system in response to a user powering down the second system to reconfigure the second system;

determine a link status, wherein the link status comprises either the link down condition or a link up condition between the host computer system and the second system;

detect the link up condition between the host computer system and the second system in response to the user powering up the second system after reconfiguring the second system; and

restore second system configuration using said configuration information.

38. The system of claim 37, further comprising:

a split bridge;

wherein a first portion of the split bridge is comprised in the host computer system;

wherein a second portion of the split bridge is comprised in the second system;

wherein said first portion is operable to couple to said second portion via said serial bus; and

wherein the split bridge is a transparent bridge operable to mediate communication between the host computer system and the second system.

39. The system of claim 38,

wherein host computer system comprises a first bus coupled to said first portion of the split bridge, and wherein said second system comprises a second bus coupled to said second portion of the split bridge; and

wherein each of the first portion and the second portion of the split bridge include parallel / serial transceivers for converting parallel data generated on the first bus and second bus, respectively, to serial data for transmission on the serial bus and for converting data received from the serial bus to parallel data for generation on the first bus and second bus, respectively.

40. The method of claim 38,

wherein the first portion and the second portion of the split bridge collectively implement a register set of the bridge.

41. The method of claim 38,

wherein the first portion and the second portion of the split bridge operate as a single PCI-PCI bridge;

wherein the first portion and the second portion of the split bridge collectively implement a PCI-PCI bridge register set; and

wherein the first portion of the split bridge operates as a first portion of a PCI-PCI bridge, and wherein the second portion of the split bridge operates as a second portion of the PCI-PCI bridge.

42. The method of claim 37,

wherein the second system comprises a remote system remotely located relative to the host computer system.

43. The system of claim 37, wherein, while in said quiescent state, the host driver software is precluded from performing transactions with the second system.

44. The system of claim 37,

wherein in entering a quiescent state, the host computer system is operable to send a power down ready signal to the second system; and

wherein the second system is further operable to display a power down ready indicator in response to said sending.

45. The system of claim 37, further comprising:

a first one or more devices comprised in the second system;

wherein, in saving configuration information for the second system, the host computer system is operable to save configuration for a first one or more devices comprised in the second system; and

wherein, in restoring second system configuration using said configuration information, the host computer system is operable to restore configuration for said first one or more devices comprised in the second system.

46. The system of claim 45, further comprising:

a second one or more devices comprised in the second system;

wherein at least one of said first one or more devices comprises a non-transparent bridge; and

wherein said second one or more devices are coupled to said non-transparent bridge through an expansion bus comprised in the second system.

47. The system of claim 46, wherein the host computer system is further operable to perform a discovery process on the reconfigured second system after restoring second system configuration.

48. The system of claim 46, wherein, in performing a discovery process on the reconfigured second system, the host computer system is operable to perform a discovery process on the second one or more devices.

49. The system of claim 46,

wherein said host driver software entering a quiescent state comprises the host driver software placing said first one or more devices and said second one or more devices into a quiescent state.

50. The system of claim 46, wherein said second system comprises a chassis, and wherein at least a subset of said first one or more devices and said second one or more devices comprise cards inserted into said chassis.

51. The system of claim 50, wherein said reconfiguring the second system comprises exchanging at least one of said cards on the second system.

52. The system of claim 50, wherein said reconfiguring the second system comprises rearranging one or more of said cards on the second system.

53. The system of claim 50, wherein said user input requesting a power down condition for the second system comprises a user initiated ejection of one of said cards from the second system.

54. The system of claim 37, wherein said reconfiguring the second system comprises modifying hardware settings on the second system.

55. The system of claim 37, wherein said reconfiguring the second system comprises modifying software settings on the second system.

56. The system of claim 37, wherein the second system is further operable to indicate an online condition after said restoring second system configuration.

57. The system of claim 37, wherein said second system comprises a button usable by a user to indicate a request for a power down condition for the second system.

58. The system of claim 57, wherein said button is on a card comprised in the second system.

59. The system of claim 37,

wherein said host driver software is executable to perform said saving configuration information, said detecting a link down condition, said polling a register, and said restoring second system configuration.

60. The system of claim 37,

wherein the indication of the power down condition comprises an interrupt.

61. The system of claim 60, wherein said interrupt comprises a hardware interrupt.

62. The system of claim 60, wherein said interrupt is performed with a software function.

63. The system of claim 37, wherein the host computer system is operable to poll a register comprised on the host computer system to determine the link status.

64. A system for connecting peripheral devices to a computer, comprising:

a computer system, wherein the computer system includes a CPU and memory, wherein the computer system includes:

a first bus; and

a first interface coupled to the first bus, wherein the first interface includes first bus interface circuitry for interfacing to the first bus;

a remote device located remotely from the computer system, the remote device comprising:

a second bus;

one or more devices coupled to the second bus; and

a second interface coupled to the second bus, wherein the second interface includes second bus interface circuitry for interfacing to the second bus;

a serial bus coupled between the first interface and the second interface, wherein the serial bus includes first and second ends, wherein the first end of the serial bus is coupled to the first interface and the second end of the serial bus is coupled to the second interface;

wherein the first interface and the second interface operate as a single bridge;

wherein the first interface and the second interface collectively implement a single bridge register set of the single bridge; and

wherein a first device is operable to be coupled to the second bus of the remote device and is operable to interoperate with the computer system without requiring rebooting of the computer system.

65. The system of claim 64,

wherein a first device coupled to the second bus of the remote device is operable to be replaced with a second device coupled to the second bus of the remote device, and wherein the second device is operable to interoperate with the computer system, without requiring rebooting of the computer system.

66. The system of claim 65, wherein the second device is the same type as the first device.

67. The system of claim 64,

wherein the first interface operates as a first portion of the bridge, and wherein the second interface operates as a second portion of the bridge.

68. A system for connecting peripheral devices to a computer, comprising:

a computer system, wherein the computer system includes a CPU and memory, wherein the computer system includes:

a first Peripheral Component Interconnect (PCI) bus; and

a primary interface coupled to the first PCI bus, wherein the primary interface includes PCI interface circuitry for interfacing to the first PCI bus;

a remote device located remotely from the computer system, the remote device comprising:

a second PCI bus;

one or more peripheral devices coupled to the second PCI bus; and

a secondary interface coupled to the second PCI bus, wherein the secondary interface includes PCI interface circuitry for interfacing to the second PCI bus;

a serial bus coupled between the primary interface and the secondary interface, wherein the serial bus includes first and second ends, wherein the first end of the serial bus is coupled to the primary interface and the second end of the serial bus is coupled to the secondary interface;

wherein the primary interface and the secondary interface operate as a single PCI-PCI bridge, and wherein the primary interface and the secondary interface collectively implement a PCI-PCI bridge register set;

wherein a first peripheral device is operable to be coupled to the second PCI bus of the remote device and is operable to interoperate with the computer system without requiring rebooting of the computer system.

69. The system of claim 68,

wherein a first peripheral device coupled to the second PCI bus of the remote device is operable to be replaced with a second peripheral device coupled to the second PCI bus of the remote device, and wherein the second peripheral device is operable to interoperate with the computer system, without requiring rebooting of the computer system.

70. The system of claim 69, wherein the second device is the same type as the first device.

71. The system of claim 68,

wherein the primary interface operates as a first portion of a PCI-PCI bridge, and wherein the secondary interface operates as a second portion of the PCI-PCI bridge.